Quantitative Usage Analysis for Azinphos-methyl

Case Number: 0235 PC Code: 58001
Date: 4/2/99 Analysts: Istanbul Yusuf & Tim Kiely

Based on available pesticide survey usage information for the years of 1987 through 1997, an annual estimate of azinphos-methyl's total domestic usage is approximately 2,192,000 pounds active ingredient (a.i.) for 1,813,000 acres treated. Most of the acreage is treated with 2.0 pounds a.i. or less per application and 2.5 pounds a.i. or less per year. Azinphos-methyl is an insecticide with its largest agricultural markets in terms of total pounds a.i. allocated to apples (41%) and cotton (21%). Crops with a high percentage of their total U.S. planted acres treated include apples (71%), tart cherries (71%), and pears (70%).

This quantitative usage analysis updates estimates provided in an earlier BEAD usage profile (D. Herzi, 9/98).

EPA's QUANTITATIVE USAGE ANALYSIS

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Blackberries	4	<0.5	<1	9%	18%	0	1	0.3	1.0	0.3	OR 97%
Blueberries	59	20	30	34%	51%	17	27	0.8	1.0	0.8	MI ME NJ 96%
Cranberries	29	12	20	41%	69%	9	18	0.8	1.0	0.8	WI MA 91%
Raspberries	11	1	2	9%	14%	0	1	0.3	1.0	0.3	OR MI WA 86%
Strawberries	50	3	6	7%	12%	2	5	0.7	1.0	0.7	OR IL MI OH IN PA 73%
Grapefruit	156	12	27	7%	17%	14	39	1.2	1.0	1.2	FL 94%
Lemons	62	<0.5	<0.5	<0.5%	<0.5%	<0.5	<0.5	1.0	1.0	1.0	CA 100%
Oranges	879	9	25	1%	3%	11	37	1.2	1.4	0.9	FL 89%
Tangelos	9	<0.5	<0.5	1%	3%	<0.5	<0.5	1.2	1.0	1.2	FL 100%
Apples	524	370	460	71%	88%	890	1,093	2.4	3.2	0.7	WA MI NY PA CA VA 67%
Apricots	19	2	3	10%	15%	2	4	0.9	1.0	0.9	WA 81%
Cherries, Sweet	46	21	27	44%	58%	27	39	1.3	1.0	1.3	WA MI 97%
Cherries, Tart	48	35	39	71%	80%	40	46	1.2	1.0	1.2	MI 84%
Nectarines	27	1	2	4%	6%	2	4	1.4	1.0	1.4	CA 100%
Peaches	266	55	81	21%	30%	120	195	2.2	2.9	0.7	CA NJ TX OK IL MI 56%
Pears	75	52	68	70%	91%	130	201	2.5	2.5	1.0	CA WA OR 93%

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Plums & Prunes	140	9	16	6%	12%	13	24	1.5	1.6	0.9	CA MI ID WA 81%
Grapes	831	8	18	1%	2%	9	22	1.1	1.7	0.7	CA MI WA TX PA 80%
Almonds	435	93	169	21%	39%	160	340	1.7	1.2	1.4	CA 100%
Pecans	471	3	12	1%	3%	7	26	1.9	1.9	1.0	MS OK LA GA 83%
Pistachios	52	23	25	43%	48%	41	49	1.8	1.0	1.8	CA 100%
Walnuts	204	35	62	17%	30%	67	140	1.9	1.3	1.4	CA 97%
Onions	149	2	4	2%	2%	2	4	0.7	1.0	0.7	WA MI 84%
Eggplant	3	<0.5	<1	9%	24%	<0.5	<1	1.3	1.0	1.3	FL NJ 94%
Peppers, Sweet	67	3	9	4%	13%	1	4	0.4	1.0	0.4	TX CA 85%
Celery	34	2	5	7%	13%	1	4	0.6	1.0	0.6	MI 82%
Lettuce	274	<0.5	<1	<0.5%	<0.5%	<0.5	<1	1.0	1.0	1.0	NJ 100%
Spinach	36	<0.5	<0.5	<0.5%	1%	<0.5	<0.5	0.8	1.0	0.8	CA 100%
Broccoli	107	<0.5	<0.5	<0.5%	<0.5%	<0.5	<0.5	1.2	1.0	1.2	CA 100%
Brussels Sprouts	4	<0.5	<0.5	1%	2%	<0.5	<0.5	1.0	1.0	1.0	CA 100%
Cabbage	84	5	11	6%	13%	3	11	0.5	1.0	0.5	FL NY 87%
Cantaloupes	110	3	5	3%	5%	2	4	0.7	1.0	0.7	CA IL OH TX 86%
Cauliflower	57	<1	1	1%	2%	<0.5	1	0.4	1.0	0.4	CA FL 90%
Cucumbers	151	1	5	0%	3%	1	4	0.8	1.0	0.8	MI 92%

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Melons	375	2	8	1%	2%	2	5	0.8	1.8	0.4	CA IA FL LA AR 84%
Squash	58	<0.5	<0.5	1%	1%	<0.5	<0.5	1.0	1.0	1.0	NY 100%
Potatoes	1,434	90	138	6%	10%	65	96	0.7	1.5	0.5	MI ND ME MN NC NY 60%
Tomatoes, Fresh	90	5	9	6%	10%	6	11	1.2	1.0	1.2	CA NJ FL 84%
Tomatoes, Proc.	318	22	34	7%	11%	9	14	0.4	1.0	0.4	MI CA 100%
Peas, Green	321	1	1	<0.5%	<0.5%	1	2	2.0	1.0	2.0	AL AR 100%
Barley	8,190	1	1	<0.5%	<0.5%	<0.5	<0.5	0.3	1.0	0.3	NC 100%
Oats/Rye	6,184	<0.5	1	<0.5%	<0.5%	<0.5	1	0.6	1.0	0.6	PA MI 86%
Rice	3,051	1	1	<0.5%	<0.5%	<0.5	<0.5	0.0	1.0	0.0	TX 100%
Wheat, Winter	42,633	2	16	<0.5%	<0.5%	1	8	0.6	1.0	0.6	TX DE 88%
Alfalfa	24,316	7	21	<0.5%	<0.5%	3	9	0.5	1.0	0.4	MI OR VA NM UT OK 69%
Peanuts	1,577	<0.5	<0.5	<0.5%	<0.5%	<0.5	<0.5	0.8	1.4	0.6	AL GA 100%
Soybeans	63,208	5	20	<0.5%	<0.5%	3	11	0.5	1.6	0.3	KY TX 86%
Cotton	12,986	820	1,470	6%	11%	470	1,094	0.6	2.4	0.2	TX AR MS AZ TN 84%
Sugarcane	855	71	218	8%	25%	56	118	0.8	1.3	0.6	LA FL 87%
Lots/Farmsteads/etc	24,232	2	3	<0.5%	<0.5%	2	5	1.5	2.0	0.8	MD OR WA 86%
Tobacco	718	<0.5	<0.5	<0.5%	<0.5%	<0.5	2	3.4	1.0	3.4	GA KY 100%
Total		1,813	2,444			2,192	2,956				

COLUMN HEADINGS

Wtd Avg = Weighted average--the most recent years and more reliable data are weighted more heavily.
Est Max = Estimated maximum, which is estimated from available data.
Average application rates are calculated from the weighted averages.

NOTES ON TABLE DATA

Usage data primarily covers 1988 - 1997. Calculations of the above numbers may not appear to agree because they are displayed as rounded to the nearest 1000 for acres treated or lb. a.i. (Therefore 0 = < 500) to the nearest whole percentage point for % of crop treated (therefore 0% = < 0.5%).
0* = Available EPA sources indicate that no usage is observed in the reported data for this site, which implies that there is little or no usage.
A dash (-) indicates that information on this site is NOT available in EPA sources or is insufficient.

*** Other/Crop Groups**

Melons include cantaloupe, watermelon, honeydew, muskmelon, and winter melon.

SOURCES:

EPA proprietary data (Doane Marketing Research (1988-1997, Maritz Marketing Research (1993-1996), Mike Buckley and Associates (1994-1997).
National Center for Food and Agricultural Policy (1992).
USDA, National Agricultural Statistics Service, Agricultural Chemical Usage: Field Crops Summary (1991-1997);.
USDA, National Agricultural Statistics Service, Agricultural Chemical Usage: Vegetables Summary (1990, 1992, 1994, 1996);
USDA, National Agricultural Statistics Service, "Agricultural Chemical Usage: Fruits Summary (1991, 1993, 1995, 1997).